Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1-97. (Canceled)

98. (New) A method for supporting establishment of a connection between a node of an inside address realm and a node of an outside address realm through an intermediate communication gateway having a limited number of available outside-realm gateway addresses for enabling outside-realm representation of inside-realm nodes, said method comprising the steps of:

identifying, based on network address information of at least one of the inside-realm node and the outside-realm node an outside-realm gateway address that, in combination with the network address information, defines an outside-realm gateway state representation that has no counterpart in a predetermined set of existing gateway connection states; and

initiating establishment of the connection based on the identified outside-realm gateway state representation.

99. (New) The method according to claim 98, wherein the identifying step includes identifying the outside-realm gateway address based on a combination of the network address information and port information of at least one of the inside-realm node and the outside-realm node.

100. (New) A method of increasing a number of outside-realm initiated connections between nodes of an inside address realm and nodes of an outside address realm, said connections being made through an intermediate communication gateway having a gateway address pool comprising a limited number of outside-realm gateway addresses for enabling outside-realm representation of inside-realm nodes, said method comprising the steps of:

receiving in a connection request, a network address of an initiating outside-realm node;

selecting from the gateway address pool, an outside-realm gateway address to combine with the received network address;

determining whether the combination of the selected outside-realm gateway address and the received network address is already being utilized to set up a connection;

if the combination of the outside-realm gateway address and the received network address is already being utilized to set up a connection, repeating the selecting step until a unique combination is found that is not already being utilized to set up a connection;

establishing a partial gateway connection state utilizing the unique combination of the outside-realm gateway address and the received network address;

transforming the partial gateway connection state to a complete gateway connection state upon receipt of a first data packet over the connection; and

repeating the method for each connection request;

wherein for each outside-realm node, multiple connections can be set up utilizing different combinations of the network address of the outside-realm node and different outside-realm gateway addresses from the gateway address pool.

101. (New) The method according to claim 100, wherein the selecting step includes selecting the outside-realm gateway address based on a combination of the received network address information and port information of the inside-realm node or the outside-realm node.

102. (New) A method of increasing a number of outside-realm initiated connections between nodes of an inside address realm and nodes of an outside address realm, said connections being made through an intermediate communication gateway having a gateway address pool comprising a limited number of outside-realm gateway addresses for enabling outside-realm representation of inside-realm nodes, said method comprising the steps of:

receiving in a connection request, port information for an initiating outside-realm node;

selecting from the gateway address pool, an outside-realm gateway address to combine with the received network address;

determining whether the combination of the selected outside-realm gateway address and the received port information is already being utilized to set up a connection;

if the combination of the outside-realm gateway address and the received port information is already being utilized to set up a connection, repeating the selecting step until a unique combination is found that is not already being utilized to set up a connection;

establishing a partial gateway connection state utilizing the unique combination of the outside-realm gateway address and the received port information;

transforming the partial gateway connection state to a complete gateway connection state upon receipt of a first data packet over the connection; and

repeating the method for each connection request;

wherein for each outside-realm node, multiple connections can be set up utilizing different combinations of the network address of the outside-realm node and different outside-realm gateway addresses from the gateway address pool.

103. (New) A method of increasing a number of outside-realm initiated connections between nodes of an inside address realm and nodes of an outside address realm, said connections being made through an intermediate communication gateway having a gateway address pool comprising a limited number of outside-realm gateway addresses for enabling outside-realm representation of inside-realm nodes, said method comprising the steps of:

receiving in a connection request from an initiating inside-realm node, a network address of a destination outside-realm node;

based on the received network address of the destination outside-realm node, selecting from the gateway address pool an outside-realm gateway address to combine with the received network address;

determining whether the combination of the selected outside-realm gateway address and the received network address is already being utilized to set up a connection;

if the combination of the outside-realm gateway address and the received network address is already being utilized to set up a connection, repeating the selecting step until a unique combination is found that is not already being utilized to set up a connection;

establishing a partial gateway connection state utilizing the unique combination of the outside-realm gateway address and the received network address;

transforming the partial gateway connection state to a complete gateway connection state upon receipt of a first data packet over the connection; and

repeating the method for each connection request.

104. (New) The method according to claim 100, wherein the inside-realm node also sends destination port information in the connection request, and the selecting step includes selecting the outside-realm gateway address based on a combination of the received network address information and port information.

105. (New) A communication gateway system for supporting establishment of a connection between a node of an inside address realm and a node of an outside address realm, said system having a limited number of available outside-realm gateway addresses for enabling outside-realm representation of inside-realm nodes, said system comprising:

a gateway resource manager for identifying, based on network address information of at least one of the inside-realm node and the outside-realm node an outside-realm gateway address that, in combination with the network address information, defines an outside-realm gateway state representation that has no counterpart in a predetermined set of existing gateway connection states; and

a gateway for initiating establishment of the connection based on the identified outside-realm gateway state representation.

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